



September 10, 2019

Mike Wilson
Utilities Inc. of Florida
200 Weathersfield Avenue
Altamonte Springs, FL 32714

Re: Summertree Water System – Chlorine Dioxide Pilot Program and Improvements
Pasco County, Florida

Dear Mr. Wilson:

Kimley-Horn and Associates, Inc. (“Kimley-Horn” or “Consultant”) is pleased to submit this letter agreement (the “Agreement”) to Utilities Inc. of Florida (“Client” or “UIF”) for providing the design, permitting, and construction oversight services for the Summertree Water System Disinfection Improvements.

Project Understanding

UIF decommissioned the existing water treatment plants by interconnecting with Pasco County to provide potable water. As a result of these modifications, the Summertree Water Distribution System requires excess flushing to maintain chlorine residuals at the perimeter of the service area, wasting large volumes of potable water. The Florida Department of Environmental Protection (FDEP) requires by Rule, that disinfectant residuals are maintained above 0.6 mg/L. Based on discussions with the Utility, the chlorine residual at the point of connection (POC) has been inconsistent, creating concerns with meeting minimum residual at remote points in the system. The intent of this project is to provide chlorine dioxide as a secondary disinfectant to help maintain residuals throughout the Summertree system and reduce overall flushing.

UIF purchases water from Pasco County at a rate of \$3.69 per 1,000 gallons. From January 2018 to January 2019, the estimated volume of potable water lost to flushing was 17,132,394 gallons, costing UIF approximately \$63,218.00.

Scope of Services

Task 1 – Pilot Testing Design and Vendor Coordination

- A. The Consultant will design improvements required to conduct a pilot test using chlorine dioxide as a secondary disinfectant at the POC to the Summertree Water Distribution System. The proposed improvements will be shown on an 11”x17” plan exhibit. The anticipated improvements include:
- (1) 500-gallon mixing tank
 - Injection pumps and associated instrumentation and control panel
 - Residual analyzer
- B. The assumptions for equipment sizing is included below:
- Average Daily Demand: 80,000 GPD (Per 2016 Billing Data)
 - Maximum Daily Demand: 192,000 GPD (Per 2016 Billing Data)
 - Approximate Chlorine Dioxide Dosing Range: 0.3 ppm – 1.0 ppm
 - 500-Gal Mixing Tank Storage Retention Time:
 - 1.0 ppm dosing rate would provide storage for 2.5 days with 500-gal tank

- 0.3 ppm dosing rate would provide storage for 9 days with 500-gal tank
- C. The Consultant will coordinate with the equipment and chemical providers prior to and during the pilot study. Consultant will coordinate the preliminary chlorine dioxide testing if necessary. It is anticipated that demand testing will be required prior to regulatory approval. The consultant will procure and coordinate the chlorine dioxide to be utilized for testing to confirm dosage and laboratory analysis.

Task 2 – FDEP Approval Request

- A. The Consultant shall prepare and submit a request for approval to implement a pilot testing program for the use of chlorine dioxide as a secondary disinfectant at the POC to the Summertree Water Distribution System. The request for approval will include a pilot protocol, disinfection calculations, field and laboratory sampling plan, sampling logs to be used during the pilot testing, National Sanitation Foundation Certification documents for chemicals and equipment to be used, Material Safety Data Sheets, emergency safety procedures, reference to historical successes with chlorine dioxide, prior testing data, and a draft public notice for UIF to issue to all drinking water customers.
- B. Following the preparation of the regulatory approval package, the Consultant will coordinate and attend one meeting with FDEP and UIF to review project approach and the anticipated results. This task includes response to (1) one round of comments issued by FDEP.

Task 3 – Testing Administration and Field Work

- A. The pilot testing will occur over a 6-month period to verify treatment impacts to the distribution system. The Consultant will provide administrative services and engineering data review during this period. Anticipated administrative efforts include: monthly review of operating data collected, weekly support and troubleshooting calls for operations staff, laboratory sampling coordination for DBP and chlorite samples, coordination for DBP and chlorite testing, sample collection, and results review, and regulatory agency updates. All samples will be collected by UIF staff and delivered to laboratory for analysis.

Task 4 – Summary Technical Memorandum

- A. A draft technical memorandum will be prepared and submitted to UIF for review. The technical memorandum will evaluate the following:
 - Observed DBP and disinfection results
 - Operational expense analysis for full scale implementation
 - Flushing reduction and estimated cost savings
 - Capital expenditures for permanent installation
 - Recommendations for future integration and regulatory requirements
- B. Consultant will address up to one round of comments from UIF and will submit a final technical memorandum as the final deliverable.

Services Not Included

Any other services, including but not limited to the following, are not included in this Agreement:

- Survey
- Environmental

- Geotechnical
- Structural
- Public Involvement

Opinion of Probable Cost Disclaimer

Because the Consultant does not control the cost of labor, materials, equipment or services furnished by others, methods of determining prices, or competitive bidding or market conditions, any opinions rendered as to costs, including but not limited to opinions as to the costs of construction and materials, shall be made on the basis of its experience and represent its judgment as an experienced and qualified professional, familiar with the industry. The Consultant cannot and does not guarantee that proposals, bids or actual costs will not vary from its opinions of cost. If the Client wishes greater assurance as to the amount of any cost, it shall employ an independent cost estimator. Consultant's services required to bring costs within any limitation established by the Client will be paid for as Additional Services.

Information Provided By Client

We shall be entitled to rely on the completeness and accuracy of all information provided by the Client or the Client's consultants or representatives.

- Service Area information
- Record Drawings
- Water Quality Data

Responsibilities of Client

In addition to other responsibilities set out in this Agreement, the Client shall:

- Access to the Site
- Sample and provide water quality data

Fee and Expenses

Kimley-Horn will perform the services described in Task 1-4 for the total lump sum fee shown below. Individual task amounts are informational only. All permitting, application, and similar project fees will be paid directly by the Consultant.

Task 1	Pilot Testing Design and Vendor Coordination	\$15,000.00
Task 2	FDEP Approval Request	\$15,000.00
Task 3	Testing Administration and Field Work	\$12,000.00
Task 4	Summary Technical Memorandum	\$10,000.00
Total Lump Sum Fee		\$52,000.00

Lump sum fees will be invoiced monthly based upon the overall percentage of services performed. Payment will be due within 25 days of your receipt of the invoice and should include the invoice number and Kimley-Horn project number.

Closure

In addition to the matters set forth herein, our Agreement shall include and be subject to, and only to, the attached Standard Provisions, which are incorporated by reference. As used in the Standard Provisions, "Consultant" shall refer to Kimley-Horn and Associates, Inc., and "Client" shall refer to Utilities Inc. of Florida.

Kimley-Horn, in an effort to expedite invoices and reduce paper waste, submits invoices via email in an Adobe PDF format. We can also provide a paper copy via regular mail if requested. Include the invoice number and Kimley-Horn project number with all payments. Please provide the following information:

Please email all invoices to mawilson@uiwater.com _____

Please copy _____

If you concur in all the foregoing and wish to direct us to proceed with the services, please have authorized persons execute both copies of this Agreement in the spaces provided below, retain one copy, and return the other to us. We will commence services after we have received a fully-executed agreement. Fees and times stated in this Agreement are valid for sixty (60) days after the date of this letter.

To ensure proper set up of your projects so that we can get started, please complete and return with the signed copy of this Agreement the attached Request for Information. Failure to supply this information could result in delay in starting work on your project.

We appreciate the opportunity to provide these services to you. Please contact me if you have any questions.

Very truly yours,

KIMLEY-HORN AND ASSOCIATES, INC.



By: Shelby N. Hughes, P.E.
Project Manager



W. Wade Wood III, P.E.
Associate

Utilities Inc. of Florida
A Corporation

By:

Michael A. Wilson

~~President~~ ~~Vice President~~ Regional Mgr.

12/9/2019

(Date)

Michael A. Wilson

(Print or Type Name)

mawilson@uiwater.com

(Email Address)



Making Water Safer

DATE: AUGUST 31, 2020

2567 Crestwood Drive
Chattanooga, TN 37415
Phone 423-580-2627 Fax 615-250-6125
pcrowe@appliedoxidation.com

Summertree, Florida

Equipment required for chlorine dioxide pilot study as a secondary disinfectant.

Table with 2 columns: Item description and Price. Items include 100 gallon HDPE Chlorine Dioxide powder mixing tank, 15 gpm magnetic drive transfer pump, 264 gallon HDPE double wall chlorine dioxide storage/run tank, etc.

\$ 29,950.00

This includes delivery, basic installation and start up.

Table with 2 columns: Add-on item and Price. Items include Add Palin Test Kemio, Add Chemicals for 90 Days, Add 2 sets PPE.

\$ 37,890.00

The plan is to base feed at 0.5 ppm of chlorine dioxide for 90 days at a flow of 80,000 gpd average. KH requested the Palin test for residual monitoring of chlorine dioxide and chlorite. Please note that the chlorine dioxide probe will not accurately maintain a chlorine dioxide residual when using a mixed oxidant system so we will base feed ClO2 to water flow.